

Date: Thursday, 02/04/2009 2:22:05 PM  
 User: Julie Dawson

## Process Sheet

<b>Customer</b> : CU-DAR001 Dart Helicopters Services	<b>Drawing Name</b> : MIRROR ARM
<b>Job Number</b> : 46818	
<b>Estimate Number</b> : 10505	
<b>P.O. Number</b> :	<b>Part Number</b> : D2010103
<b>This Issue</b> : 02/04/2009 <b>S.O. No.</b> :	<b>Drawing Number</b> : D2010 REVD
<b>Prsht Rev.</b> : NC	<b>Project Number</b> : N/A
<b>First Issue</b> : / / <b>Type</b> : SMALL /MED FAB	<b>Drawing Revision</b> : D
<b>Previous Run</b> : 45811	<b>Material</b> :
<b>Written By</b> :	<b>Due Date</b> : 14/04/2009 <b>Qty:</b> 10 <b>Um:</b> Each
<b>Checked &amp; Approved By</b> : <u>JD 09.04.02</u>	
<b>Comment</b> : Est : F 02.08.21 Re-format; Added D2057 KJ/RF	
Est Rev:G 08-05-27 as per ECN1195P DD verified by:EC	
Est Rev:H 08-06-20 rev.D as per dwg DD verified by:EC	

## Additional Product

Job Number:



Seq. #:	Machine Or Operation:	Description :
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1.0	M304TR0500W049	304 RD Tube .500 x .049W
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M110968

(7X)



\*

Comment: Qty.: 1.5750 f(s)/Unit Total : 15.7500 f(s)

Material: 304/316 SS tubing 0.500" Dia. x 0.049" wall (M304TR0500W049)

Batch No:

M108823

(3X)

M-L 09/04/22

2.0	BRAKE NC	NC BRAKE
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(10X)

Comment: BRAKE NC

Punch per Dwg. D2010-103-T1 and Spec Control Dwg D2727  
Identify as D2010-103

M-L 09/04/23

3.0	SMALL FAB 1	SMALL & MEDIUM FAB RESOURCE 1
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(10X)

Comment: SMALL &amp; MEDIUM FAB RESOURCE 1

1- Bend as per Dwg D2010 using bending Jig D2010-103T2  
2- Deburr ends

M-L 09/04/23

4.0	D2057	Plug
-----	-------	------



(10X)

Comment: Qty.: 1.0000 Each(s)/Unit Total : 10.0000 Each(s)

Plug

Pick:

Qty	Part Number	Description
1	D2057	Plug

Batch

B 40048

M-L 09/04/23

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries

Date: Thursday, 02/04/2009 2:22:05 PM  
User: Julie Dawson

## Process Sheet

Customer: CU-DAR001 Dart Helicopters Services

Drawing Name: MIRROR ARM

Job Number: 46818

Part Number: D2010103

Job Number:



Seq. #:

Machine Or Operation:

Description :

5.0

SMALL FAB 1

SMALL & MEDIUM FAB RESOURCE 1



10X

Comment: SMALL & MEDIUM FAB RESOURCE 1

1-flare before installing plug as per dwg D2010

2-Install D2057 plug as per Dwg D2010

M/L 09/04/24

6.0

QC5

INSPECT WORK TO CURRENT STEP



Comment: INSPECT WORK TO CURRENT STEP

S 02/04/24 10X

7.0

POWDER COATING

POWDER COATING



Comment: POWDER COATING

Powder Coat Black Sandtex (Ref: 4.3.5.7) as per QSI 005 4.3

START TIME:

10:15

OVEN TEMPERATURE:

320°

FINISH TIME:

10:45

UMP FL 09/04/30 10X

8.0

QC3

INSPECT POWDER COAT/CHEMICAL CONVERSION



Comment: INSPECT POWDER COAT

09-04-30 10X

9.0

PACKAGING 1

PACKAGING RESOURCE #1



Comment: PACKAGING RESOURCE #1

Identify and Stock

Location: ST 220

SP 09/05/01 10X

10.0

QC21

FINAL INSPECTION/W/O RELEASE



Comment: FINAL INSPECTION/W/O RELEASE

09/05/04 10X

Job Completion



MF 09-05-01

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries

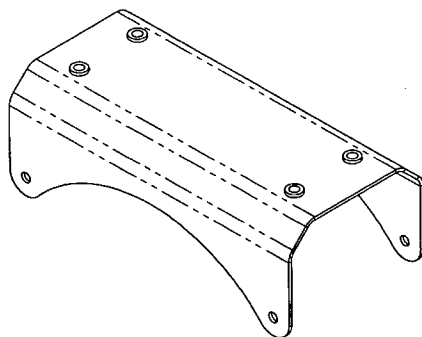
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D

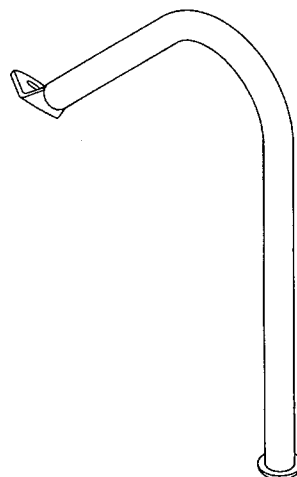
C

B

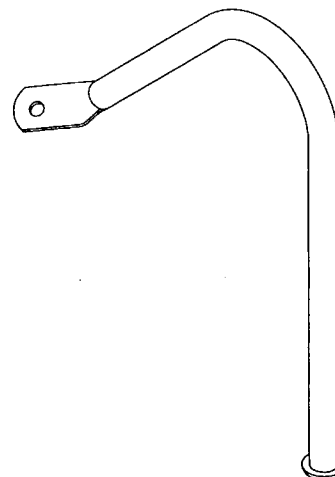
A



**D2010-101 MIRROR BRACKET**



**D2010-103 ARM**



**D2010-104 ARM**

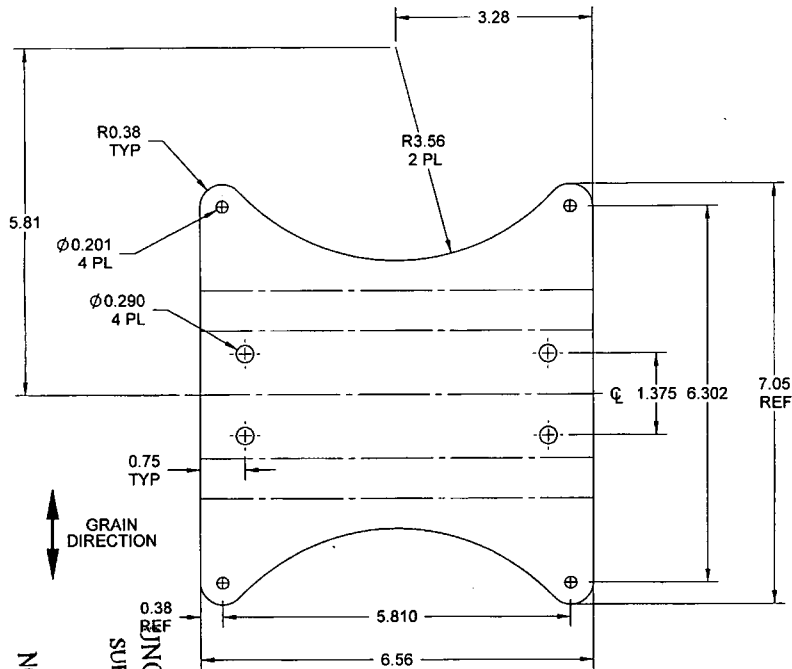
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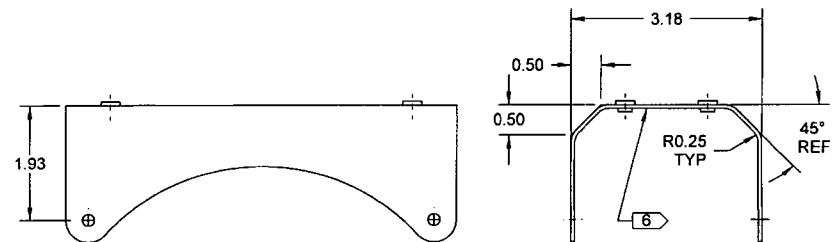
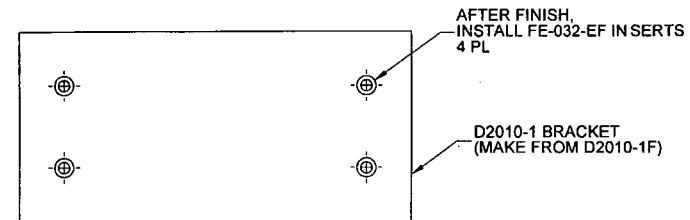
D	REDRAWN IN SOLIDWORKS; ADD D2010-1F FLAT PATTERN FOR D2010-101 (ZN B7-2); Ø0.500 X 0.049 WALL WAS Ø0.500 X 0.035 WALL (ZN B1-3, B1-4); REASON: TUBING CRACKING DURING SERVICE	PH	08.06.10
C	1.93 WAS 2.00; 0.50 WAS 0.62	KE	97.10.31
B	7.90 WAS 10.90	JB	92.03.17
A	NEW ISSUE	JB	90.12.15
REV.	DESCRIPTION	BY	DATE
DESIGN	JB	<b>DART AEROSPACE LTD</b> HAWKESBURY, ONTARIO, CANADA	
DRAWN	JB		
CHECKED	JB	DRAWING NO. D2010	REV. D
MFG. APPR.	JB	SHEET 1 OF 4	
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DE APPR.	JB	MIRROR BRACKET	NTS
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8 7 6 5 4 3 2 1

QTY -101	P/N	DESCRIPTION
X	D2010-101	MIRROR BRACKET
1	D2010-1	BRACKET
4	FE-032-EF	INSERT



**D2010-1F FLAT PATTERN**








**D2010-101 MIRROR BRACKET**

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08-06-19/17

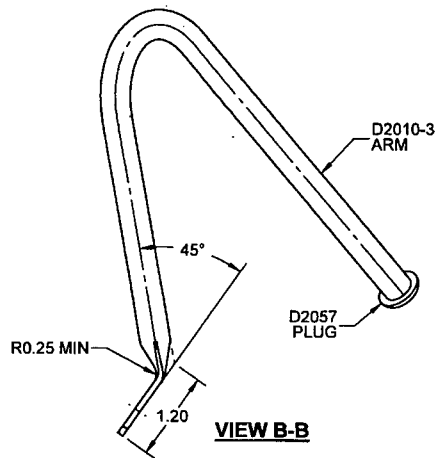
**NOTES:**

- 1) MATERIAL: D2010-1F: 2024-T3 ALUMINUM SHEET, 0.063 THICK PER AMS-QQ-A-250/4 OR AMS 4037 (REF DART SPEC M2024T3S.063)
- 2) FINISH: CHEMICAL CONVERSION COAT PER DART QSI 005 4.1  
POWDER COAT BLACK SANDTEX (4.3.5.7) PER DART QSI 005 4.3
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
- 6) IDENTIFICATION: IDENTIFY WITH DART P/N "D2010-101" USING WHITE FINE POINT PERMANENT INK MARKER OR LABEL
- 7) WEIGHT: 0.23 lbs

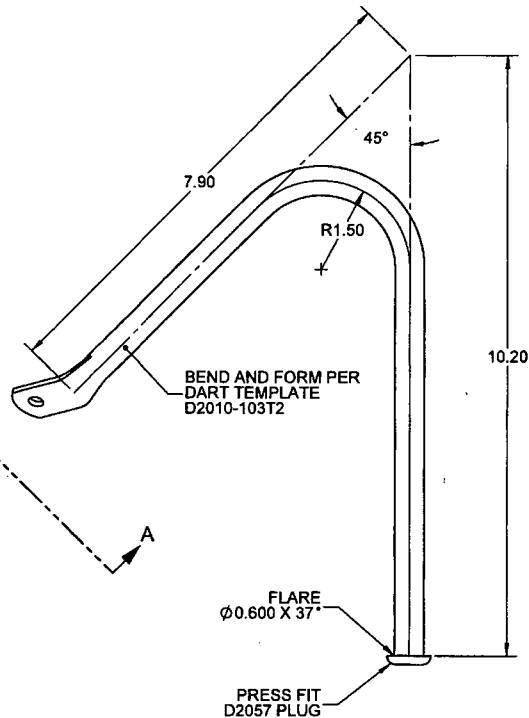
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MFG. APPR.		D2010	SHEET 2 OF 4
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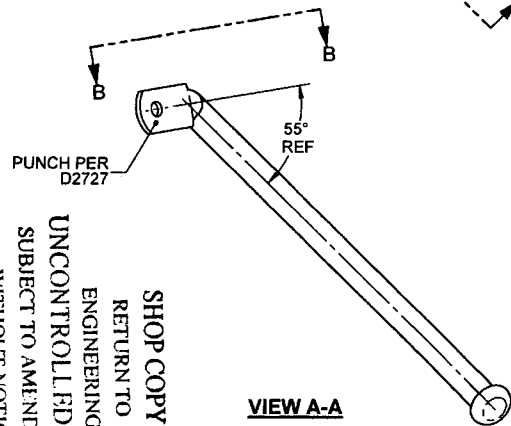
QTY -103	P/N	DESCRIPTION
X	D2010-103	ARM
1	D2010-3	ARM
1	D2057	PLUG



**VIEW B-B**



**D2010-103 ARM**



**VIEW A-A**

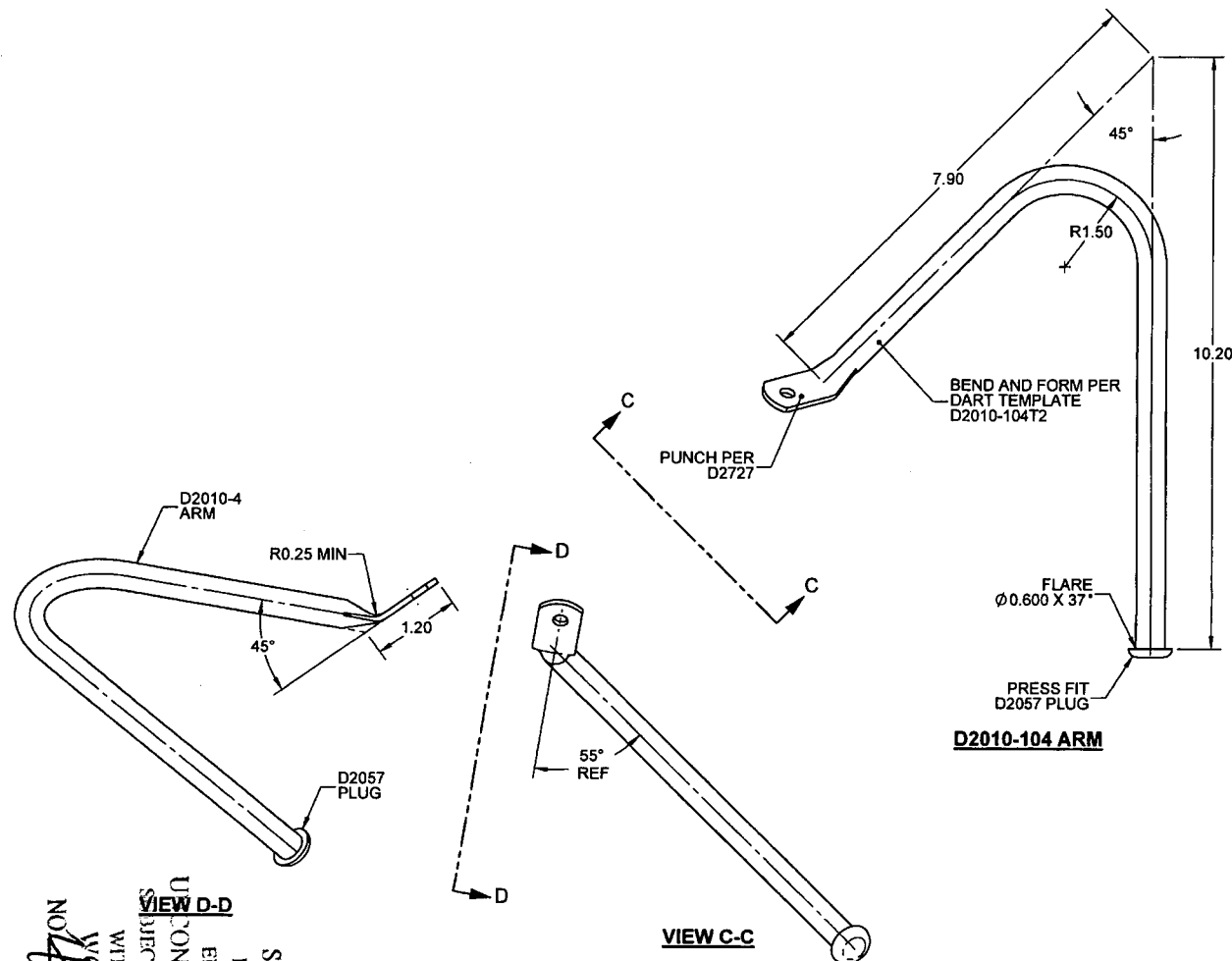
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- NOTES:**
- 1) MATERIAL: D2010-3: AISI 304/316 SS SEAMLESS ROUND TUBING,  $\phi 0.500 \times 0.049$  WALL (REF DART SPEC M304TR0.500W.049)  $\Delta$
  - 2) FINISH: POWDER COAT BLACK SANDTEX (4.3.5.7) PER DART QSI 005 4.3
  - 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
  - 4) UNITS: INCHES UNLESS OTHERWISE NOTED
  - 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
  - 6) IDENTIFICATION: IDENTIFY WITH DART P/N "D2010-103" USING WHITE FINE POINT PERMANENT INK MARKER
  - 7) WEIGHT: 0.34 lbs

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QTY -104	P/N	DESCRIPTION
X	D2010-104	ARM
1	D2010-4	ARM
1	D2057	PLUG



**D2010-104 ARM**

**VIEW C-C**

**VIEW D-D**

**RELEASED**  
08-06-10

- NOTES:
- 1) MATERIAL: D2010-4: AISI 304/316 SS SEAMLESS ROUND TUBING,  $\varnothing 0.500 \times 0.049$  WALL (REF DART SPEC M304TR0.500W.049)  $\Delta$
  - 2) FINISH: POWDER COAT BLACK SANDTEX (4.3.5.7) PER DART QSI 005 4.3
  - 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
  - 4) UNITS: INCHES UNLESS OTHERWISE NOTED
  - 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
  - 6) IDENTIFICATION: IDENTIFY WITH DART P/N "D2010-104" USING WHITE FINE POINT PERMANENT INK MARKER
  - 7) WEIGHT: 0.34 lbs

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